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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/579,902 | 02/09/2007 | Masanori Nakamura | MIY-0211 | 3714 |
| 74384 | 7590 | 12/16/2008 | | |
| Cheng Law Group, PLLC 1100 17th Street, N.W. Suite 503 Washington, DC 20036 | | | EXAMINER | |
| | | | WALKE, AMANDA C | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1795 | |
| | | | MAIL DATE | DELIVERY MODE |
| | | | 12/16/2008 PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/579,902

Applicant(s)

NAKAMURA ET AL.

Examiner

Amanda C. Walke

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 5-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 5/19/06 17/08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

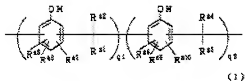
Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5-14, 16, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizukami et al (JP 11-223942 in view of its machine translation) in view of any of Shepard (3,028,357), Fusco et al (3,165,496), or Manka et al (7,026,378).

Mizukami et al disclose a photoresist comprising a phenolic resin:



Wherein, Ra5-Ra10 are alkyl of 1-15 carbons, hydrogen, halogen, cycloalkyl, hydroxyl, alkoxycarbonyl, aryloxy, aralkyl, and acyl, and at least one of Ra8-Ra10 is other than hydrogen, halogen, and hydroxy, indicating that these are commonly used therefore the reference desires less common substituents in those positions. It would have been obvious to one of ordinary skill in the art to prepare the material of the reference choosing to employ a hydroxyl or hydrogen or alkyl (such as methyl) as Ra5 to Ra7 (instant compounds 7-16) and a hydroxyl as Ra8 and alkyl for Ra9 and Ra10.

Any of the secondary references teach that it is known to include substituted alkyls, specifically hydroxyl methyl groups (two) on a phenolic resin. Given that the Mizukami et al

reference fails to specify whether the alkyl are substituted or not, it is taken to mean that either substituted or unsubstituted alkyls may be employed.

Given the teachings of the references, it would have been obvious to one of ordinary skill in the art to prepare the material of Mizukami et al choosing to employ the hydroxy methyl groups of the secondary references as they are well known in the art (instant compounds 17, 19, 20).

The primary reference further discloses that the material comprises a photosensitive component such as a o-naphthoquinonediazide [0053] in an amount falling within the instant claim limitations, and a solvent (viscosity modifier). Also, known additives to photoresists may be included [0059].

The reference teaches a method of forming an image meeting the instant claim limitations. With respect to the instant claims 6-9 and 12-14, the claims are drawn to a photoresist comprising a resin, thus the limitations of these claims requiring that the resin be formed by certain ingredients is not given weight as the final product of the reference meets the product limitations.

M.P.E.P. § 2113:

"Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)... "The Patent Office bears a lesser burden proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessman*, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence

establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983).

3. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizukami et al (JP 11-223942 in view of its machine translation) in view of any of Shepard (3,028,357), Fusco et al (3,165,496), or Manka et al (7,026,378) in view of Lamotte et al (6, 638,680).

Mizukami et al, Fusco et al, Manka et al, and Shepard have been discussed above, but while the primary reference teaches that various additives may be included in the resist material, the reference fails to specifically teach colloidal silica, the specific quinonediazide compound, and the specific surfactant.

Lamotte et al disclose a photoresist composition that may comprise an anionic surfactant, colloidal silica, and a quinonediazide as instantly claimed in amounts instantly claimed (columns 18 and 20 and examples).

Given the teachings of the references, it would have been obvious to one of ordinary skill in the art to prepare the material of Mizukami et al in view of Fusco et al, Manka et al, and Shepard choosing to add the known resist additives of Lamotte et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C. Walke whose telephone number is 571-272-1337. The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amanda C Walke
Primary Examiner
Art Unit 1795

/Amanda C Walke/
Primary Examiner, Art Unit 1795